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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/130,593 08/07/98 GUST

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IM62/0302
ROBERT W BECKER & ASSOCIATES
SUITE B
11896 N HIGHWAY 14
TIJERAS NM 87059

EXAMINER

FIGUEROA, J

ART UNIT

PAPER NUMBER

1772

DATE MAILED:

03/02/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/130,593

Applicant(s)

Herbert Gust

Examiner

John J. Figueroa

Group Art Unit

1772



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-25 is/are pending in the application

Of the above, claim(s) 17-25 is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-16 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☒ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-16, drawn to a component comprising at least one support member, classified in class 428, subclass 34.1+.
 - II. Claims 17-25, drawn to a method for producing a connection, classified in class 156, subclass 244.17.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the component can be made by providing a PTFE connection portion resin; placing it in an injection mold; closing the mold; injecting the plastic support member material into said mold; and subsequently allowing the mold to cool in order for said PTFE connection portion resin to fuse to said plastic support member material and attain a resultant component having a plastic/PTFE bonded connection.

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3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, the distinct search required for Groups I is not required for Group II, and because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Robert Becker on February 17, 2000 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17-25 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heine (US 5874170) in view of either Krause (US 5958532).

Applicant's claimed invention is drawn to a component comprising at least one support member having at least two connecting portions connected to each other; wherein one of said connecting portions comprises a polyfluorocarbon which was activated by plasma treatment for

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connecting the support member to a part of one of the connecting portions. Claims 2-16 recite, *inter alia*, the connection between the support member and part of a connecting member to be done without an intermediate bonding agent layer; the polyfluorocarbon to be e.g. either a homopolymer, copolymer or a polytetrafluoroethylene; a connecting portion of the support member to be either polyphenylene sulfide (PPS) or an elastomer; the support member to support a sealing ring or be cup-shaped and a part of the connecting member to be a sealing element; a connection portion comprising an elastomer enclosing the support member partially; and a part of a connecting portion comprising fillers and additives.

Heine discloses a seal for movable structural components comprising a carrier body (support member) made of plastics and a polytetrafluoroethylene (PTFE) sealing members (connecting portions) which is bonded and directly connected to said support member. (*See* Abstract; Col. 1, lines 39-46; Col. 4, lines 9-36; *See also* Fig. 1-5 and 7-10)

Moreover, Heine also discloses that the PTFE sealing member may be modified with fillers and that the plastic material for the carrier member may comprise e.g. a mixture of PTFE with e.g. PPS, a polyamide or polyethylene in order to provide a stronger connection between the carrier member and the sealing elements, particularly by activating the PTFE sealing member by plasma treatment. (Col. 2, line 14 to Col. 3, line 28)

Although, Heine may not specifically disclose the support member to be cup-shaped, it is well settled that a particular shape of a claimed invention carries no patentable weight unless the applicant can demonstrate that the new shape provides significant unforeseen improvements to

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the invention. See, e.g. *In re Seid* , 161 F.2d 229, 73 USPQ 431 (CCPA 1947) (Claim was directed to an advertising display device comprising a bottle and a hollow member in the shape of a human figure from the waist up which was adapted to fit over and cover the neck of the bottle, wherein the hollow member and the bottle together give the impression of a human body. Appellant argued that certain limitations in the upper part of the body, including the arrangement of the arms, were not taught by the prior art. The court found that matters relating to ornamentation only which have no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art.) Also, see *in re Dailey* , 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (the court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.) In the instant case, the applicants' specifications do not indicate any new significant attributes of the invention due to its shape which would have been unforeseen to a person of ordinary skill in the art.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form Heine's carrier member into any desired shape such as e.g. cup-shaped. One skilled in the art would have been motivated to do so in order to manipulate the shape of the carrier member for any specific intended use comprising sealing rings.

However, Heine does not *specifically* disclose the connections to comprise fluoropolymer copolymers.

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On the other hand, Krause teaches a method of directly adhering an integral and chemically bonded layer of a thermoplastic polymer, such as an elastomer, to a fluoropolymer substrate by first activating the fluoropolymer substrate layer via plasma treatment providing a fluoropolymer/thermoplastic seal which has enhanced flexibility with high chemical and electrostatic discharge resistance. (See Abstract, Col. 1, line 57 to Col. 2, line 30)

Additionally, Krause teaches that among fluoropolymers that may be adhered by this method to the thermoplastic polymers are ethylene-tetrafluoroethylene (ETFE), polyvinylfluoride (PVF), polyvinylidene fluoride (PVDF), PTFE and hexafluoropropene (Col. 3, line 51 to Col. 4, line 20; whereas the thermoplastic polymers may be fluoroelastomers, isoprene, perfluoroelastomers, polysulfides and thermoplastic elastomers (Col. 4, lines 40-59)

Accordingly, it would have been obvious to a person of ordinary skill in the art at the time Applicant's claimed invention was made to form Heine's fluorocarbon/thermoplastic seal connection by plasma treatment comprising directly adhering either PPS or a fluoroelastomer to an activated PTFE or ETFE support member part. One skilled in the art would have been motivated to do so in order incorporate Krause's teachings and attain an integral and stronger chemically adhered fluoropolymer/thermoplastic seal which has superior flexibility, durability and chemical resistance.

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pilot (EP 551094A1) also discloses forming fluorocarbon/thermoplastic resin bonds by plasma treatment.

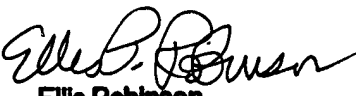
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (703) 305-0582. The Examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. The Examiner can also be reached on alternate Fridays.

If the attempts to reach the Examiner are unsuccessful, the Examiner's supervisor, Ellis P. Robinson can be reached by dialing (703) 308-2364. The fax phone number for the organization where this application is assigned is (703) 305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose phone number is (703) 308-0661.

jjf JSF

February 23, 2000


Ellis Robinson
Supervisory Patent Examiner
Technology Center 1700